

## WHAT IS CLAIMED IS:

1  
2 1. A security policy method comprising the steps of:  
3 associating wildcarded resource identifiers with a corresponding security policy;  
4 and  
5 matching a resource identifier received in an access request to one of a list of said  
6 wildcarded resource identifiers, wherein said matching is determined in accordance with  
7 a predetermined set of precedence values, each precedence value of said set  
8 corresponding to a predetermined wildcard element.

1 2. The method of claim 1 wherein each predetermined wildcard element comprises  
2 a regular expression element.  
3

4 3. The method of claim 1 further comprising the step of selecting, in response to a  
5 security policy associated with a wildcarded identifier from said matching step, one of  
6 a grant of access to a requested resource corresponding to said resource identifier and a  
7 denial of access to said requested resource.

1 4. The method of claim 1 wherein said list of said wildcarded resource identifiers  
2 comprises an ordered list of wildcarded resource identifiers, said ordered list being  
3 ordered in accordance with said predetermined set of precedence values.

1        5.        The method of claim 4 wherein said step of matching said resource identifier  
2        received in said access request comprises the steps of:

3                sequentially comparing said resource identifier received in said access request  
4        with each wildcarded resource identifier in said ordered list;

5                in response to a comparison, terminating said comparing step, returning a policy  
6        associated with a wildcarded identifier from said comparing step.

1        6.        The method of claim 4 further comprising the step of ordering a list of wildcarded  
2        resource identifiers to generate said list of ordered wildcarded resource identifiers.

3  
4        7.        The method of claim 6 wherein said step of ordering a list of wildcarded resource  
5        identifiers includes the steps of:

6                selecting a pair of wildcarded identifiers from a list in accordance with a  
7        predetermined sorting process;

8                sequentially selecting elements in each identifier of said pair of wildcarded  
9        identifiers;

10                comparing a first precedence value corresponding to a first one of a selected  
11        element of said pair of wildcarded identifiers and a second precedence value  
12        corresponding to a second one of a selected element of said pair of wildcarded identifiers,  
13        wherein said first precedence value and said second precedence value each comprise a  
14        predetermined value from said set of precedence values; and

15                if said first precedence value and said second precedence value corresponding are  
16        not equal, ordering said pair of wildcarded identifiers according to said first precedence  
17        value and said second precedence.

1 8. The method of claim 7 further comprising the step of returning said pair of  
2 wildcarded identifiers from said ordering step to said preselected sorting process.

1 9. The method of claim 1 wherein said set of precedence values comprises:  
2 a first precedence value having a highest precedence corresponding to an exact character,  
3 a second precedence value having a next lower precedence from said first precedence  
4 value, corresponding to a character range;

5 a third precedence value, having a next lower precedence from said second  
6 precedence value, corresponding to any character;

7 a fourth precedence value, having a next lower precedence from said third  
8 precedence value, corresponding to a repeating exact character;

9 a fifth precedence value, having a next lower precedence from said fourth  
10 precedence value, corresponding to a repeating character range; and

11 a sixth precedence value, having a next lower precedence from said fifth  
12 precedence value, corresponding to any character string, and wherein said sixth  
13 precedence value comprises a lowest precedence value.

1 10. A security policy system comprising:  
2 circuitry operable for associating wildcarded resource identifiers with a  
3 corresponding security policy; and  
4 circuitry operable for associating wildcarded resource identifiers with a  
5 corresponding security policy matching a resource identifier received in an access request  
6 to one of a list of said wildcarded resource identifiers, wherein said matching is  
7 determined in accordance with a predetermined set of precedence values, each  
8 precedence value of said set corresponding to a predetermined wildcard element.

1 11. The system of claim 10 wherein each predetermined wildcard element comprises  
2 a regular expression element.

1 12. The system of claim 10 further comprising circuitry operable for selecting, in  
2 response to a security policy associated with a wildcarded identifier from said matching  
3 step, one of a grant of access to a requested resource corresponding to said resource  
4 identifier and a denial of access to said requested resource.

1 13. The system of claim 10 wherein said list of said wildcarded resource identifiers  
2 comprises an ordered list of wildcarded resource identifiers, said ordered list being  
3 ordered in accordance with said predetermined set of precedence values.

1 14. The system of claim 13 wherein said circuitry operable for matching said resource  
2 identifier received in said access request comprises:

3           circuitry operable for sequentially comparing said resource identifier received in  
4           said access request with each wildcarded resource identifier in said ordered list;

5           circuitry operable for, in response to a comparison, terminating said comparing  
6           step, returning a policy associated with a wildcarded identifier from said comparing step.

1           15.    The system of claim 13 further comprising circuitry operable for ordering a list  
2           of wildcarded resource identifiers to generate said list of ordered wildcarded resource  
3           identifiers.

1           16.    The system of claim 15 wherein said step of ordering a list of wildcarded resource  
2           identifiers includes:

3           circuitry operable for selecting a pair of wildcarded identifiers from a list in  
4           accordance with a predetermined sorting process;

5           circuitry operable for sequentially selecting elements in each identifier of said pair  
6           of wildcarded identifiers;

7           circuitry operable for comparing a first precedence value corresponding to a first  
8           one of a selected element of said pair of wildcarded identifiers and a second precedence  
9           value corresponding to a second one of a selected element of said pair of wildcarded  
10          identifiers, wherein said first precedence value and said second precedence value each  
11          comprise a predetermined value from said set of precedence values; and

12          circuitry operable for, if said first precedence value and said second precedence  
13          value corresponding are not equal, ordering said pair of wildcarded identifiers according  
14          to said first precedence value and said second precedence value.

1 17. The system of claim 16 further comprising the circuitry operable for returning  
2 said pair of wildcarded identifiers from said ordering step to said preselected sorting  
3 process.

1 18. The system of claim 10 wherein said set of precedence values comprises:  
2 a first precedence value having a highest precedence corresponding to an exact  
3 character, a second precedence value have a next lower precedence from said first  
4 precedence value, corresponding to a character range;  
5 a third precedence value, having a next lower precedence from said second  
6 precedence value, corresponding to any character;  
7 a fourth precedence value, having a next lower precedence from said third  
8 precedence value, corresponding to a repeating exact character;  
9 a fifth precedence value, having a next lower precedence from said fourth  
10 precedence value, corresponding to a repeating character range; and  
11 a sixth precedence value, having a next lower precedence from said fifth  
12 precedence value, corresponding to any character string, and wherein said sixth  
13 precedence value comprises a lowest precedence value.

1 19. A computer program product in a machine readable medium of expression  
2 including programming for wildcarding security policies comprising programming  
3 instructions for performing the steps of:

4 associating wildcarded resource identifiers with a corresponding security policy;  
5 and

6 matching a resource identifier received in an access request to one of a list of said  
7 wildcarded resource identifiers, wherein said matching is determined in accordance with  
8 a predetermined set of precedence values, each precedence value of said set  
9 corresponding to a predetermined wildcard element.

1 20. The program product of claim 19 wherein each predetermined wildcard element  
2 comprises a regular expression element.

1 21. The method of claim 19 further comprising programming instructions for  
2 performing the step of selecting, in response to a security policy associated with a  
3 wildcarded identifier from said matching step, one of a grant of access to a requested  
4 resource corresponding to said resource identifier and a denial of access to said requested  
5 resource.

1 22. The program product of claim 19 wherein said list of said wildcarded resource  
2 identifiers comprises an ordered list of wildcarded resource identifiers, said ordered  
3 list being ordered in accordance with said predetermined set of precedence values.

1 23. The program product of claim 22 wherein said program of instructions for

2 performing the step of matching said resource identifier received in said access request  
3 comprises a program of instructions for performing the steps of:

4 sequentially comparing said resource identifier received in said access request  
5 with each wildcarded resource identifier in said ordered list;

6 in response to a comparison, terminating said comparing step, returning a policy  
7 associated with a wildcarded identifier from said comparing step.

1 24. The program product of claim 22 further comprising programming instructions  
2 for performing the step of ordering a list of wildcarded resource identifiers to generate  
3 said list of ordered wildcarded resource identifiers.

1 25. The program product of claim 24 wherein said programming instructions for  
2 performing the step of ordering a list of wildcarded resource identifiers includes  
3 programming instructions for performing the steps of:

4 selecting a pair of wildcarded identifiers from a list in accordance with a  
5 predetermined sorting process;

6 sequentially selecting elements in each identifier of said pair of wildcarded  
7 identifiers;

8 comparing a first precedence value corresponding to a first one of a selected  
9 element of said pair of wildcarded identifiers and a second precedence value  
10 corresponding to a second one of a selected element of said pair of wildcarded identifiers,  
11 wherein said first precedence value and said second precedence value each comprise a  
12 predetermined value from said set of precedence values; and

13 if said first precedence value and said second precedence value corresponding are



14 not equal, ordering said pair of wildcarded identifiers according to said first precedence  
15 value and said second precedence.

1 26. The program product of claim 25 further comprising programming instructions  
2 for performing the step of returning said pair of wildcarded identifiers from said ordering  
3 step to said preselected sorting process.

1 27. The program product of claim 19 wherein said set of precedence values  
2 comprises:

3 a first precedence value having a highest precedence corresponding to an exact character,  
4 a second precedence value have a next lower precedence from said first precedence  
5 value, corresponding to a character range;

6 a third precedence value, having a next lower precedence from said second  
7 precedence value, corresponding to any character;

8 a fourth precedence value, having a next lower precedence from said third  
9 precedence value, corresponding to a repeating exact character;

10 a fifth precedence value, having a next lower precedence from said fourth  
11 precedence value, corresponding to a repeating character range; and

12 a sixth precedence value, having a next lower precedence from said fifth  
13 precedence value, corresponding to any character string, and wherein said sixth  
14 precedence value comprises a lowest precedence value.

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